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| 10/693,424      | 10/24/2003  | Stanley Wai-Yan Chow | 2003B014/2          | 2016             |

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| EXAMINER |
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PASTERCZYK, JAMES W

|          |              |
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| ART UNIT | PAPER NUMBER |
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1755

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/693,424

Applicant(s)

CHOW ET AL.

Examiner

J. Pasterczyk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 13-15 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-19 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6/14/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. This Office action is in response to the IDS filed 6/14/04.
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-12 and 16-18, drawn to a prepolymerized catalyst, classified in class 502, subclass 159 inter alia.
  - II. Claims 13-15, drawn to activated prepolymerized catalysts, classified in class 502, subclass 103 inter alia.
  - III. Claim 19, drawn to a method for polymerizing olefins, classified in class 526, subclass 135.

3. The inventions are distinct, each from the other because:

Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a pigment for a UV-visible light filter and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different

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functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different effects, one to filter UV-visible light, the other to make polyolefins.

Inventions II and III are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process for using the product as claimed can be practiced with another materially different product, such as a metallocene or Ziegler-Natta catalyst.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Catherine Bell, Esq., on 2/11/05, a provisional election was made with traverse to prosecute the invention of group I, claims 1-12 and 16-18. Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-15 and 19 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention. The examiner also notes that the requirement for an election of species made in the above telephone conversation is withdrawn.

6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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7. The use of the trademark GORE-TEX has been noted at p. 41 in this application. It should be capitalized and accompanied by superscript TM wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

8. The abstract of the disclosure is objected to because in the first line the complexes appear to be acetanaphthalene (sp?) diimine complexes. Correction is required. See MPEP § 608.01(b).

9. Claims 1-5, 8-12 and 16 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the transition metal being from groups 9-11, does not reasonably provide enablement for the transition metal being an earlier transition metal. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or the invention commensurate in scope with these claims. Chemistry is considered to be an unpredictable art and catalysis even moreso. The present claims are drawn to catalyst precursors having essentially any transition metal in them. However, it is well-known that the chemical behavior of early vs. late transition metals is radically different, with the early metals being more electrophilic and the late ones being less so. Because of this difference at least it is not considered likely that the single example of a nickel compound (nickel here being a metal explicitly barred from the transition metal catalysts of all the present claims) would place the invention into the hands of the public absent extensive experimentation, hence the claims are not considered to be sufficiently enabled for the broad

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class of transition metals herein claimed. One may even ask whether they are enabled for cobalt, the preferred metal, since the sole example is drawn to a nickel complex.

10. Claims 1 and 6-12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the pnictogen Pn being nitrogen, does not reasonably provide enablement for this atom being any other pnictogen. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make or the invention commensurate in scope with these claims. As noted above, chemistry is an unpredictable art, catalysis even moreso. Although the first period of the Periodic Table is normally referred to as e.g. "representative elements", their chemistry varies radically with their heavier congeners due to inter alia the availability of d orbitals for bonding, the lesser tendency of their frontier orbitals to rehybridize, their greater number of electrons and greater metallic character. From experience this examiner can state that nitrogen, phosphorus and arsenic have distinct chemistries. Because of these differences it is not considered that a single example using nitrogen is sufficient to place the invention into the hands of the public absent extensive experimentation, hence the claims are not considered to be enabled for the entire range of pnictogen elements in the rejected claims.

11. Claims 1-12 and 16-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, part (a), "functions to make the catalyst precursor polymerizable" is functional language on its face, as is "abstractable ligand" in part (c). In 1. 2 "catalyst polymerization monomer" would be far more easily and clearly stated as --olefin monomer--.

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In claim 2, a phrase is repeated in l. 1-2; one instance should be deleted. In addition, since there are no new limitations introduced by the (a) and (c) clauses they can be deleted as well, though the examiner here notes that the (c) clause is broader than that of claim 1 since it does not bar nickel.

In claims 3-5, the coefficients on the R groups should be superscripted and those on the C groups subscripted. After "selected from" insert --the group consisting of-- and change "or" to --and-- for proper and consistent Markush language.

In claim 6 delete "selected from" and add the negative limitation against nickel.

In claim 8 insert --or-- after the last semicolon.

In claims 9 and 10 insert --the-- and --the two-- respectively after "wherein". Further in claim 10, the limitations on the abstractable ligands are inconsistent with the limitations in claim 8 from which it depends.

In claim 11, many of the species of abstractable ligands recited are inconsistent with those recited in claim 10 from which this claim depends.

In claim 16, first line, insert --compound-- after "precursor" for clear antecedent basis. Delete from "wherein" inclusive as prolix.

In claim 17 delete "selected from" as prolix.

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1-12 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over each of Chinese Patent 1352203 A (hereafter referred to as Jin I) and Chinese Patent 1371924 A (hereafter referred to as Jin II).

The examiner first notes that the present claims are in a sense product-by-process claims in that the combination of reagents required would result in a copolymer of the transition metal compound with the monomer via free radical initiated polymerization using the free radical initiator. Hence any copolymer of the transition metal compound with an olefin potentially reads on the present claims.

Jin I discloses the invention substantially as claimed (claim 1 of pp. 2-3) with the exception of using a nickel atom instead of the generic transition metal atom of the present claims.

Jin II has a similar disclosure (pp. 2-4, claims 1 and 2) with the exception of the transition metal being nickel and having a metallocene comonomer in the terpolymer.

The differences between the prior art and the present claims are noted in the two paragraphs above.

However, it would have been conventional in the art of metal diimine catalysts to use late transition metals other than nickel or to delete the metallocene from the terpolymer as disclosed by Jin I.

It would have been obvious to one of ordinary skill in the art to apply that skill to the disclosures of either of Jin I or Jin II with a reasonable expectation of obtaining a highly-useful olefin polymerization catalyst precursor with the expected benefit of the olefin polymer produced



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having a narrow molecular weight distribution from using only one type of catalyst containing no ash.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Pasterczyk whose telephone number is 571-272-1375. The examiner can normally be reached on M-F from 9 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J. Pasterczyk

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5/14/05



J. A. LORENGO

SUPERVISORY PATENT EXAMINER